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Good morning to you all. I thank the organisers for inviting me here to share my experiences with you. I was asked to talk about maize. I don't know that when I was asked to talk about the issue whether the organisers knew that we were really in big trouble with maize in Mexico or whether they were expecting a success story. But I think we can learn from the issue and, as was mentioned yesterday, there must be more collaboration with industry and government and the people trying to do the research in the developing countries.

This is only to show you where we are located because not everyone lives in Mexico City. We have actually at this time in Mexico a moratorium. It is not an official one, it is a defacto moratorium. What I want to share with you is how we reached this state.

I would like to briefly tell you about the situation in Mexico with regard to transgenic material. The number of applications that have been reviewed by the Secretary of Agriculture have been 181 so far. We have tested 21 different species, 14 traits, and have had 25 applicants. Out of those 25 applicants there have been three which have been from non-profit organisations. One has been from CIMMYT, another one is from the National University and one has been from our own institute, Cinvestav, which is the only institute in Mexico actually doing field trials with material coming from our own labs. We have two de-regulations at the moment - two products - Flavour-saver tomato, one for Calgene and one for Zeneca.

Cotton is a pre-commercial release. What does this mean? It means that cotton is now being closely monitored to ensure that the strategies to maintain insect susceptibility are well managed, and that we are monitoring insect populations to ensure that we don't have resistant populations and so on. The Secretary of Health has approved for human consumption in Mexico three different types of tomatoes with delayed ripening qualities, two Bt cottons and one herbicide resistant cotton, Bt potato, two different canolas (oilseed rape) and soya bean with herbicide resistance. These materials can be imported and used in Mexico but they cannot yet be grown in Mexico.

Now what has happened with maize? In 1993 Mexico issued the first permit to conduct a field release of transgenic maize for experimental purposes. After two fields trials in 1999 the government decided to stop the trials with this type of product. So in 1993 we had the first application to release transgenic maize and it was rejected. It is not one of the ones that you saw in the graph, those are the ones that have been approved.

This one was rejected mainly because the committee that reviewed the material was told that in the state of Nayarit, where the test was going to take place, teocinte was found and that the trait for the maize to be tested was herbicide resistant and people weren't sure what this was exactly. So they decided to stop this field trial. However, there was another field trial approved. This actually was for the staff for our research centre and it was only 10 plants growing outside the greenhouse. We had to ask for permission and we got it, and nevertheless we were asked to make sure that no pollen was produced.

So I think at this time there was already something that should have told industry or should have told people that there was going to be some resistance but people really did not know. We were told by some experts that teocinte was found in Nyarit and herbicide resistance was considered an undesirable trait. That's not scientific. What that is telling us is that we didn't have the data and data had to be obtained somehow.

In 1995 USDA deregulated transgenic maize and, of course, there was a lot of pressure from the growers of northern Mexico wanting to use this material. In September 1995 the Biosafety Committee, CIMMYT and INIFAB (the research organisation for agriculture) organised a symposium to discuss possible affects of the release of transgenic maize in Mexico. We wanted to have information. We wanted to have data concerning these issues. The first symposium led to guidelines to test transgenic maize, and the identification of risk-free and intermediate-risk areas where transgenic maize could be released depending on the phenotype and other elements related to biosafety as well as high risk areas where no tests could take place. So then we knew exactly where the land-races were and we could define these areas for field testing. Ecological data on teocinte was missing and there was no reliable data on gene flow between maize and teocinte and people really didn't know which way the gene flow was going and they didn't know quantitatively what was the actual gene flow on this type of material. So, again in 1995, the conclusion was that we needed data.

In 1996, the U.S. planted around 300,000 hectares of transgenic maize but next year it was already 3.2 million hectares. So they were growing a lot of maize just across the border. Between 1996 and 1997 Mexico approved 20 field trials with transgenic maize under very strict biosafety conditions.

In 1997 there was a second symposium because we still didn't have a lot of data on maize. The conclusions were similar to the first symposium because no data had been obtained due to the fact that we still didn't know much about gene flow and we still didn't know much about the ecology of teocinte. The implementation of research programmes was recommended, but in my opinion it was already a bit late.

In 1998 there were eight field trials approved but only one in 1999. In 1998 and especially 1999 NGOs intensified their campaign against transgenic maize so it became the target of demonstrations. During this time, Mexico began its political race for the presidency, which was a landmark in our political history. So this was going to be a very tight political race and the NGOs knew how to use the race to their advantage, taking their protest to the streets, demanding the stop on the release and import of transgenic maize. There was a lot of pressure. In 1999, the Secretary of Agriculture, without any explanation and without consulting the Biosafety Committee, decided not to take any more applications on maize.

Many of us believed that this was a political decision. There was a lot of noise coming from NGOs and the one way to stop all of this in a very intense political situation was to go to a moratorium. Now what were the consequences or what are the consequences for the growers in the north of Mexico whose business it was to produce seed for the United States? They can no longer grow the GM maize

required, so the jobs went to Argentina and Chile.

There is fear that transgenic maize may be smuggled from the United States. Of course we have a lot of agricultural workers going to the United States and we don't know what they will bring back. Biosafety data cannot be obtained unless its produced using non transgenic seeds, which, of course, only has limited value. The opportunity to generate valuable biosafety or agricultural data using controlled experiments with GM maize as we were doing now is lost.

Research, of course is affected. CIMMYT can no longer test any transgenic maize and Cinvestav cannot test transgenic maize with traits such as aluminum tolerance and enhance phosphorous uptake. The biosafety authorities in Mexico have requested from the Consultative Council of Biosafety "The Terms of Reference" for actions to be taken to assess the potential affects of the release of GM maize. So again we are being asked what do we need to do at this moment? So we have to come up with a document recommending the actions to be taken in different areas of research. Areas such as agriculture, human and animal health, environment, social and economical diversity, social and economic impact, and public perception.

We have to address these issues apparently before the moratorium is lifted, but we don't know who will do the research, who will pay for it and how long it will take to get the results. This is getting very complicated. Of course we know that Mexico must preserve its biodiversity and must ensure that valuable resources such as teocinte and land-races are not affected.

Preservation measures must be based on knowledge and not a product of irrational fear. Knowledge in this case could be obtained by several means, this is what we were already doing. We had no risk soils where we could grow maize. We had medium risk soils where we could apply some biosafety measures, but we know that finding the answers is a dynamic process and one that requires that things are done and the problem is that with the moratorium we are just paralysed. We don't get the results of course we don't get any knowledge and that's why I say it's ignorance that breeds and maintains the moratorium, which can only maintain our own underdevelopment.

Why? Because it has delayed and in some cases stopped the possibility of obtaining knowledge about these issues. It has taken away from us the possibility to evaluate whether or not transgenic maize is good for us. I'm not saying that by lifting the moratorium we want to just open the doors to transgenic maize in Mexico. What we want is to have the opportunity to evaluate ourselves, whether its good or not for us. The problem here is that I think we never understood the clues on how to avoid the situation. In 1993, the first application was rejected because of the possible effect on teocinte. The first symposia in 1995, which I mentioned already, concluded that we didn't have ecological data, we didn't have reliable data for gene flow, but no one did anything and I ask why the biotech industry did not take any steps to provide data concerning these issues.

In the second symposium in 1997 the conclusions were similar and in this period there were 21 field trials conducted, either in the no risk zone or under strict control for pollen production. However, no biosafety information was obtained nor demanded.

What does it mean? That they were conducting field trials to test agronomical traits rather than biosafety. The question of course is whose obligation is it to provide biosafety data to support repetition to a field release of a GMO. I think the applicant is the one that should provide data supporting the safety of their product. In the United States, ASGRO did provide to the USDA/APHIS the necessary data to evaluate the risk involved in the release of transgenic squash in areas where wild relatives were growing.

So why didn't they do the same in Mexico? Maybe they thought that if it was going to be deregulated in the United States, it was just a matter of time that we would deregulate it in Mexico. However, the conditions are completely different. We are the centre of origin for maize. We have land-races and we have wild relatives which are sexually compatible. So I don't know why they didn't come forward with the data if they knew already in 1993 that the data was not reliable and there was a lot of it missing. I don't know if regulators should have demanded the data, maybe we should have done this. We should have demanded more information, but I think it's not a matter of demanding the data, it's the responsibility of the companies to provide the data to ensure that their product is safe.

Now the Consultative Council of Biosafety should deliver the "Terms of Reference" for maize around July of this year. The information provided will be used to decide whether or not to re-open the possibility of field trials using the risk zone criteria, which I hope we do. I hope we open the opportunity to test maize again. There are areas of urgent research and we need to find the economic resources for the research. The data will have to be periodically evaluated but we are doing this or we will begin to do this next year. This will be nine years after the first field trials, which is nine years that we have just wasted.

Of course what worries us as well is that we are the centre of origin for the papaya, tomato, squash, pepper, cotton and other crops. Is the same thing going to happen?

Thank you very much.